11th Renewable Energy Marketing Conference

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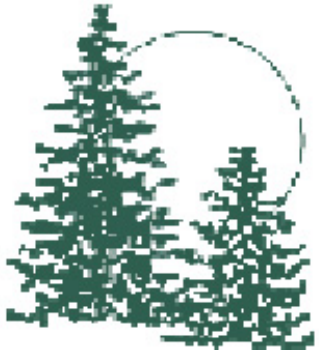
Who Owns Renewable Energy Certificates?



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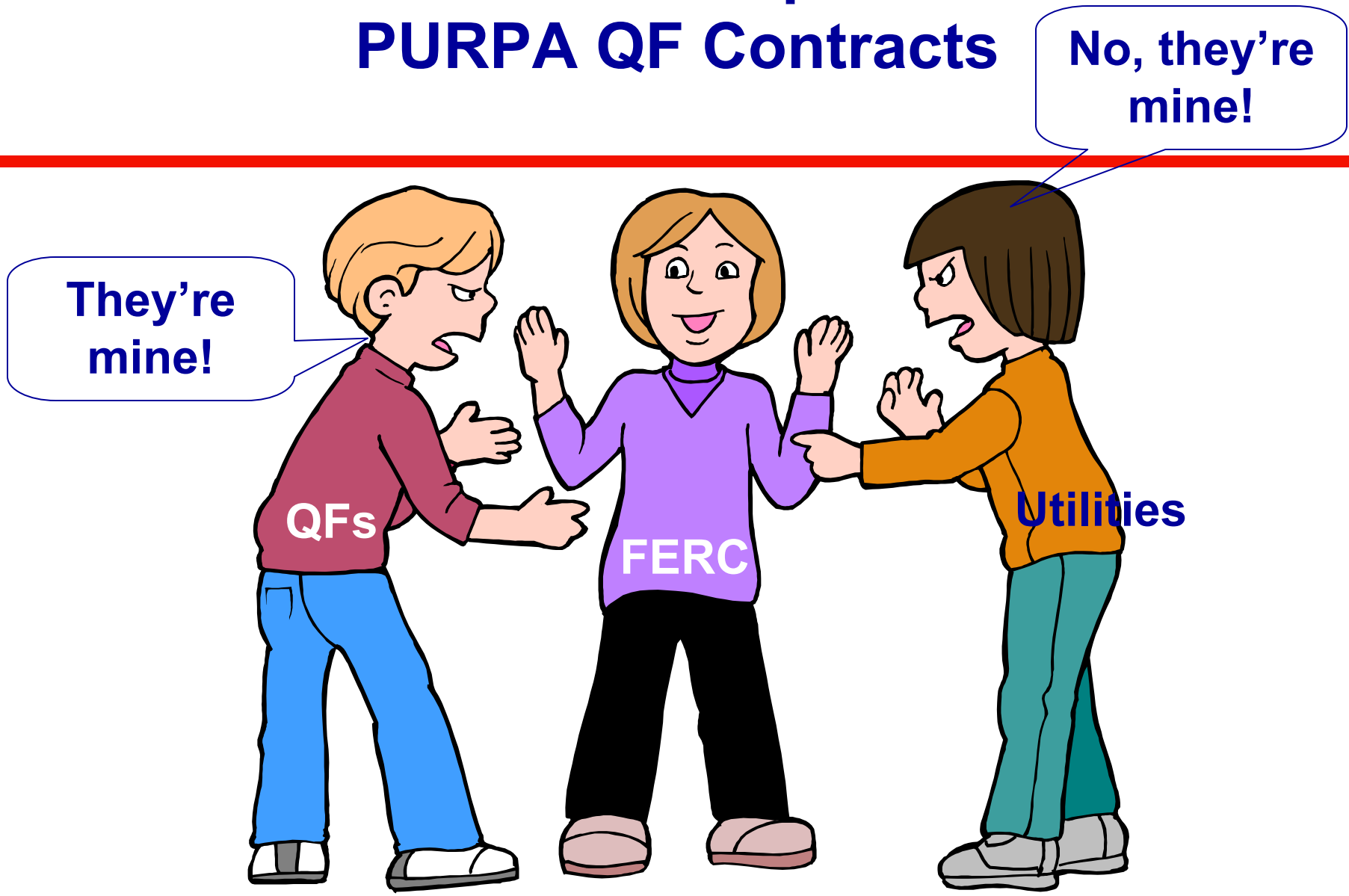
Outline

- PURPA QF Contracts—Federal Perspective
- State Action on PURPA QF Contracts
- Net Metering and Distributed Generation
- State Incentives
- Conclusions

REC Ownership under PURPA QF Contracts



Federal PURPA Background

- Under 1978 federal law (PURPA), utilities are required to purchase the output from certain Qualifying Facilities, including cogeneration and renewable energy generators
- PURPA requires that utilities make avoided cost payments to QFs for energy and capacity, but does not mention RECs
- RECs began to be recognized in the late 1990s, *after* many QF agreements were signed
- With the introduction of renewables portfolio standards (RPS) in a number of states, those RECs may have significant value
- Most pre-existing QF contracts are silent as to which party – the generator or the utility – owns the RECs

The FERC Case

- Disputes about REC ownership under QF contracts led to a FERC case in 2003
- FERC ruled that:
  - Avoided cost payments by utilities to QFs *do not* transfer the RECs to utilities, unless contract says otherwise
  - It is up to the states to decide REC ownership in such cases based on state law, but not based on avoided cost payments
- This ruling has caused confusion:
  - Both sides continue to cite the FERC decision in support of their positions
  - It has also led the antagonists into state regulatory forums for resolution

State QF Cases

- 15 states have adopted positions
- Most states have assigned RECs from pre-existing QF contracts to utilities
  - Especially where states include existing renewables in RPS
  - Regulators concerned that doing otherwise would raise the cost of RPS
- In several states, QFs retain the RECs in new contracts
- One state determined that QFs must be compensated for RECs

State Actions re: QF RECs

RECs Conveyed to Power Purchaser	Proceeding in Process (←leaning→)	RECs Retained by QF Unless Otherwise Stated in Contract
CA (existing contracts)* CO (existing) CT (existing) ME (existing) * MN (existing) ** ND (existing and new, with compensation) NJ (existing) NM (existing and new) NV (existing) TX (existing) WI (existing) **	← PA	AZ CO (new contracts) NV (new) OR (new) RI (new) TX (new) UT (new)

* ME and CA currently count PURPA QF contracts towards RPS, without specifically requiring RECs to be transferred to the buyer.

** In MN and WI, renewable attributes appear to be conveyed with underlying energy deliveries, by default, for purpose of compliance with state RPS, but REC treatment is not stated explicitly.

Some Key Arguments (1)

- Point: **Renewable attributes are inextricably linked to energy and must be conveyed to utility; without them QF would not be eligible for PURPA contract**
- Counterpoint: **Avoided cost payments are for energy and capacity only; attributes are merely a qualifying characteristic that makes QF eligible for contract**

- Point: **Utilities are already paying above-market prices for QFs; payments were sufficient when contract was signed**
- Counterpoint: **Payments based on utility avoided cost, not QF economic need; price paid for energy and capacity is not relevant to REC ownership**

Some Key Arguments (2)

- Point: **Payments are intended to compensate the QF for the entire output of the facility, including its non-power characteristics**
- Counterpoint: **QFs are paid the same avoided costs as are fossil-fueled cogeneration QFs; therefore avoided cost payments by utilities compensate only for energy and capacity, and not for environmental benefits**

- Point: **When an asset or commodity is not specifically reserved for the seller, the full asset or commodity is deemed to have been transferred to the buyer**
- Counterpoint: **When a contract does not expressly convey RECs, those severable property interests are reserved for the seller; a utility can only be entitled to those products specifically enumerated in a contract**

Some Key Arguments (3)

- Point: **QFs get a long-term assured revenue stream and thus avoid the risk of market forces. Utilities are guaranteed cost-recovery, but the energy market risk is shifted to the utility and its ratepayers. By now asserting ownership of the RECs, however, QFs seek to retain the benefits of PURPA protection but gain the benefits of market participation through the separate sale of RECs.**
- Counterpoint: **If utilities are granted ownership of the beneficial environmental attributes, they should also be responsible for the environmental attributes and liabilities of non-renewable generators from which they purchase power—contingencies that are not recognized on the utilities' books. Utilities should not be able to pick and choose which attributes they want to own among all their purchased energy contracts**

Some Key Arguments (4)

- Point: **Giving RECs to QFs would unfairly enrich QFs at the expense of ratepayers and would increase cost of RPS compliance**
- Counterpoint: **The sale of RECs separate from power is intended to compensate for development risk and encourage development of new resources**

- Point: **Utilities would be forced to pay QFs twice, once for energy and a second time for RECs, with no additional benefit to ratepayers**
- Counterpoint: **Utilities and ratepayers receive the benefits even without the RECs: increased fuel diversity, a local and secure fuel supply, increased efficiency of energy production, and a fixed price not subject to fluctuations**

REC Ownership under Net Metering and Distributed Generation

Net Metering & Distributed Generation

- Net metering is required in 40 states – but REC ownership not originally addressed in the rules and regulations establishing net metering
  - Not as many RECs at stake as with QFs, but over 21,000 net-metered projects nationally
  - Behind-the-meter generation is eligible to satisfy RPS in many states, and is especially important where solar or DG set-asides exist within state RPS policies
- Where REC ownership is not explicitly addressed, most people assume that the customers that own the DG facilities own the RECs

State Net Metering Cases

- 12 states and DC have looked (or are looking) at this:
  - 8 states currently award all RECs to customer-generator
  - 3 additional states award RECs associated with customer on-site use to customer and RECs from net excess generation to utility (2 of these require compensation to customer)
  - 1 state and DC share the RECs between utility and customer
- No state has yet given all or even a majority of RECs from DG used on site to the utility as a result of net metering rules—only MD and DC contemplate giving any of these RECs to the LSE

State Actions re: Net Metering & DG

RECs Associated w/ Net Excess Generation Conveyed to Utility	RECs Retained by Customer-Generator	RECs Shared between Utility and Customer
MN (with compensation) ND (w/comp) NV	AZ CA * CO MI ** MN *** ND *** NJ NM NV *** OR PA	MD **** DC ****

* CA may reconsider
** Although MI rejected a proposal for utility ownership, it did not affirmatively award RECs to the customer-generator
*** Customer retains only those RECs associated with customer load
**** Implementation details not yet available

Arguments for Utility Ownership

- Net metering is a ratepayer subsidy, and if a DG facility receives a ratepayer subsidy, the utility should be able to use all of the RECs associated with the energy generated by the facility towards its RPS compliance
- Ratepayers shouldn't have to pay twice: (1) for credit at retail price, (2) for acquiring RECs for RPS

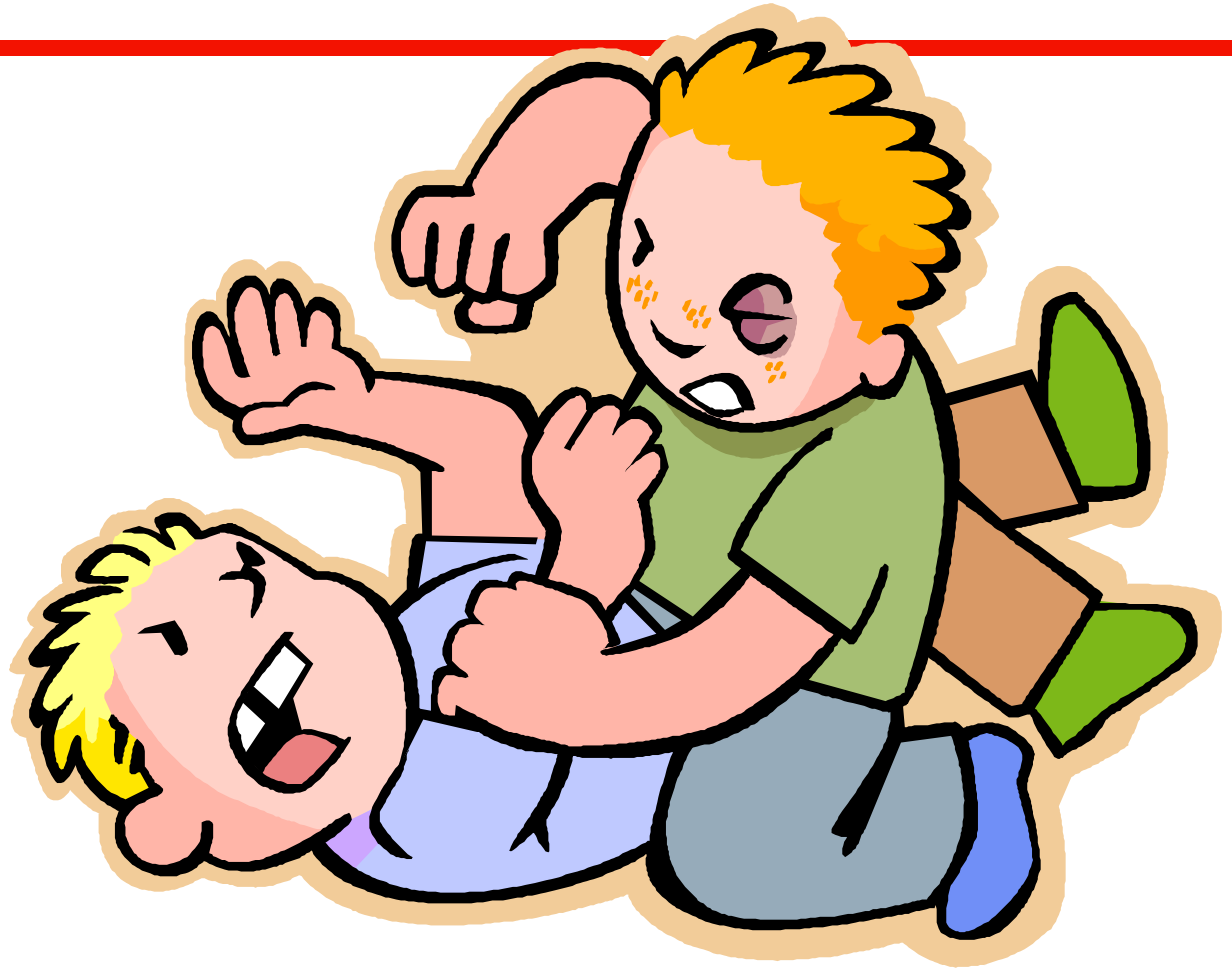
Arguments for DG Ownership (1)

- Customer bears the cost of installation, should therefore receive the benefits to compensate for investment
- The public purposes of net metering—encourage DG, resource diversity, and cleaner sources of electricity—are undermined by removing the incentive of REC ownership
- The utility already receives the tangible distributed benefits, and SO2 emissions reductions, resulting from DG net metering
- Making the transfer of RECs a condition of net metering and interconnection gives the utilities extreme market power because customers have no alternative to interconnecting to their distribution utility. This gives the utility the ability to veto the interconnection on business grounds rather than technical or safety grounds

Arguments for DG Ownership (2)

- Transferring RECs from customer-owned DG would likely result in double claim on the RECs
- Granting the RECs to distribution utilities would foreclose small business opportunities for aggregating RECs from net-metered facilities
- RECs are a separate commodity from electricity, and can be traded separately, therefore they should be paid for separately
- Utilities, like any other party, should pay fair and just compensation for the RECs, separate from and in addition to a net metering or DG tariff

REC Ownership when Financial Incentives Are Provided



DG Financial Incentives

- Many state renewable funds and utilities offer financial incentives to renewable projects
- Relatively few of these funds/utilities have addressed REC ownership
- By their silence, most states do not condition incentives on the transfer of RECs

- But it's an issue that is heating up

Is It an Explicit Purchase?

- Some utilities explicitly purchase RECs from DG projects
  - TVA's Green Power Switch Generation Partners pays $.15/kWh for 10 years
  - We Energies' Energy for Tomorrow Power Partner pays $.225/kWh for 10 years (solar)
  - PNM's Solar PV Program pays $.13/kWh in addition to net metering (but charges a $100-$150 application fee)
- But for incentives based on cost or capacity, the linkage between incentive and RECs is unclear

State Actions re: Incentives

RECs Conveyed to Funding Entity	RECs Shared between Funder and Customer	RECs Retained by Generator
AZ CO (utility pays extra for RECs) NV Several utility programs	OR	CA (may reconsider) CT WA Most others

This list includes incentives in the form of grants, buy-downs, rebates or loans, that are tied to capital cost or capacity. The list does not include programs where payments are directly tied to output and whose primary purpose is to acquire RECs via long-term purchase contracts.

Argument: RECs to Utilities

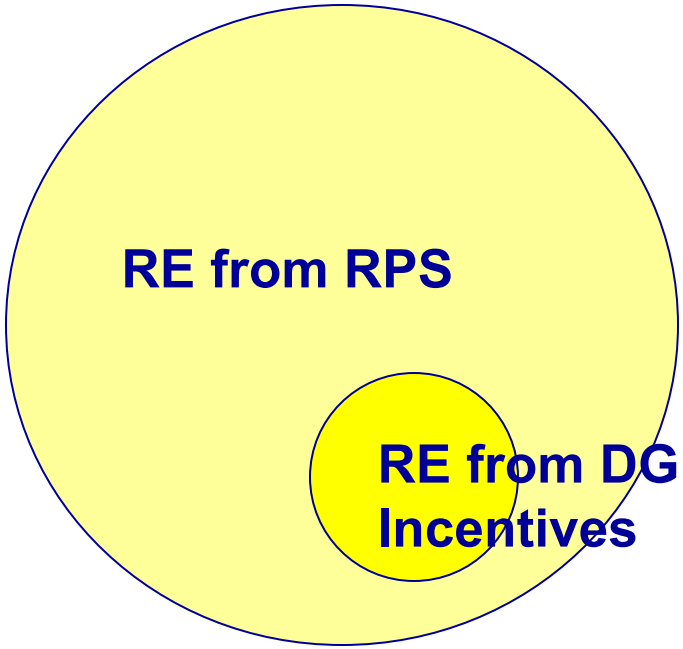
- Ratepayers shouldn't have to pay twice for the same set of benefits by (1) subsidizing the DG system and (2) paying to acquire RECs for RPS compliance
  - Is net metering a subsidy?
- Aligns utility goals with DG deployment

Argument: RECs to DG Owner

- Ratepayers already benefit because DG reduces utility load and thereby reduces utility RPS obligation
- Ratepayers will still get most benefits without the RECs-- increased fuel diversity, a local and secure fuel supply, cleaner environment and reduced price volatility
- Utility already gets the distributed benefits
- Separate REC revenues can make more projects feasible
- DG owners may be less inclined to invest if they can't make a green claim

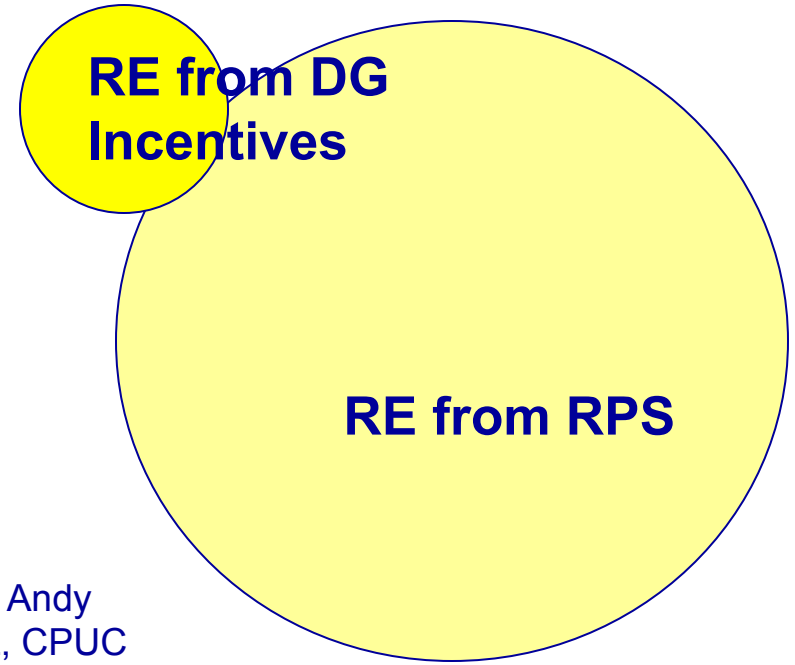
Financial Incentives Intent?

Multiple Means to the Same Goal



Incentives conditioned on transfer of RECs to utilities

2 Different Goals with Incremental Benefits



RECs retained by DG system owners

Concept: Andy Schwartz, CPUC

Conclusions

- RPS is forcing states to address REC ownership questions
- Uncertainty about ownership limits REC marketability
  - Critical for QF contracts – quantity and value of RECs is significant
  - Behind-the-meter projects are also eligible for RPS – if ownership not clarified, will lead to double claims
- State policy-makers are key to determining ownership
  - FERC QF ruling still subject to differing interpretations
  - Need to watch (or participate in) state regulatory proceedings
  - State legislative action may reduce appeals and uncertainty

For More Information...

Download the full report from:

http://eetd.lbl.gov/ea/ems/re-pubs.html

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